

We claim:

1. An implantable cross-pin, comprising:

5 an elongated member having a proximal end, a distal end, a longitudinal axis, and an outer surface;

a nose member extending out from the distal end said elongated member having a proximal end and a distal end ;

10 an axial trough in the elongated member extending through the outer surface, said trough having a proximal end , a distal end, a bottom, opposed ends, an open top and a passageway;

15 a guide wire opening in the distal end of the nose member; and,

an interior passage in the nose member extending from the guide wire opening and extending into the trough such that the passage is in communication with the guide wire opening and the trough.

20 2. The cross-pin of claim 1, wherein the cross-pin comprises a biocompatible material.

3. The cross-pin of claim 2, wherein the material is bioabsorbable.

25 4. The cross-pin of claim 2 wherein the material is non-absorbable.

5. The cross-pin of claim 3, wherein the bioabsorbable material is selected from the group consisting of PLA, PGA, and copolymers thereof.

5 6. The cross-pin of claim 4, wherein the non-absorbable material is selected from the group consisting of surgical stainless steel, nickel titanium alloys, ceramics, Delrin, polyethylene, polypropylene, acetal, and ceramics.

10 7. The cross-pin of claim 1, wherein the proximal end of the cross-pin comprises an opening in communication with the proximal end of the trough.

8. The cross-pin of claim 1, wherein the guide wire opening is concentric with the longitudinal axis.

15 9. The cross-pin of claim 1, wherein the nose member has a bullet shape.

10. The cross pin of claim 1, wherein the nose member has a frustoconical shape.

11. The cross-pin of claim 1, wherein the nose member has a conical shape.

20 12. A method of securing an end of an ACL ligament implant in a bone tunnel, comprising;

I. providing a implantable cross-pin, said cross-pin comprising:

25 an elongated member having a proximal end, a distal end, a longitudinal axis, and an outer surface;

a nose member extending out from the distal end, said frustoconical nose member having a proximal end and a distal end ;

5 an axial trough in the member extending though the outer surface, said trough having a proximal end , a distal end, a bottom, opposed ends, an open top and a passageway;

10 a guide wire opening in the distal end of the nose member, said guide wire opening having a maximum dimension; and,

15 an interior passage in the nose member extending from the guide wire opening and extending into the trough such that the passage is in communication with the guide wire opening and the trough.

II. drilling an axial, femoral tunnel in a femur;

20 III drilling a transverse tunnel in the femur, said transverse tunnel intersecting the femoral tunnel;

25 IV. placing a guide wire through the transverse tunnel such that opposed ends of the guide wire extend out through opposed end of the transverse tunnel, and such that the guide wire is beneath the end of the ACL implant;

V. moving an end of an ACL implant into the femoral tunnel;

VI. threading the cross-pin onto the guide wire such that the wire enters the guide wire opening, and is partially contained within the interior passage and the trough passage way; and,

5 VII. moving the cross-pin over the guide wire to implant the cross-pin in the transverse tunnel, under the end of the ACL implant.

13. The method of claim 12 comprising the additional step of tying a knot in the guide wire distal to the nose member, wherein the knot has a maximum outer
10 dimension, wherein the outer dimension of the knot is greater than the maximum dimension of the guide wire opening of the nose member.

14. The method of claim 12 additionally comprising the steps of providing an insertion tool comprising an elongated member having a proximal end and a distal
15 end, a handle attached to the distal end and a passageway through the insertion tool, and, threading the guide wire through the passage on the insertion tool such that the distal end of the insertion tool contacts the proximal end of the cross-pin.

15. The method of claim 14 wherein the insertion tool comprises a set screw
20 mounted thereto such that the set screw extends at least in part into the passageway of the insertion tool.

16. The method of claim 15 additionally comprising the step of engaging the guidewire with the set screw such that the insertion tool moves with the guide wire.
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